



Fact Sheets and Information Papers

Unknown Waste Analysis

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BACKGROUND: The analysis of an unknown waste has become a perplexing problem. Laws like the Resource Conservation and Recovery Act (RCRA) have placed more restrictions on waste disposal over the past decades. While it may inconvenience us in the short run, it is to our benefit in the long run to properly dispose of our waste.

Because waste analysis is expensive, reducing the amount of analysis required can save money. Start by gathering as much information as you can about your waste. You may be able to provide enough information about the waste so that analysis may not even be necessary.

WHAT DO YOU KNOW? In many cases, the contents of the container are not entirely unknown. First, find out if anyone has any knowledge of the waste. Try to find out the specific process that generated the waste, the building it came from, or the activity that submitted the waste. This information could help narrow the search.

An example: You have a drum of unknown waste. In asking around to find out from where it came, SSG Cercla recalls seeing that drum out behind building A106 and SPC Tosca also recalls seeing that drum there but neither could offer a guess as to the contents. With this information, you can investigate the operations in Bldg A106. As it turns out, Bldg A106 has been used as a motor pool maintenance facility for the past 20 years. Now you have narrowed down the probable waste components to a handful of items such as used motor oil, waste antifreeze, lubricants, solvents (degreasers), transmission fluid, battery acid, or some other item associated with the motor pool.

Written records are another source of information. The label on the container may give you some clues to guide your search. Look for a name, National Stock Number, catalog number, manufacturer, or any other identifying markings. If you know from what building or process it came, check the records there for any clues. If a name can be found (and possibly a manufacturer), an MSDS can be located and used to determine proper disposition provided that the contents of the drum now match the name on the outside. This information should be available through Logistics and/or user records.

WHAT YOU CAN DO: BEFORE you do any of the following things, you must contact your installation Industrial Hygiene personnel (DPW/DEH) to make sure you have received proper training and you have the correct personal protective equipment.

There are a few things you can do to help in the identification of your unknown waste. One thing you can easily determine is the physical state of the waste. Is it a solid, liquid, or gas? Next, check the color of the waste for a clue to its identity. Take the previous example; if the waste had a fluorescent yellow color, it would be a good bet that the waste contains antifreeze. If a pH meter is available, test the pH of the waste. A pH can only be taken from a water-based (aqueous) solution. If the pH is lower than 2 or higher than 12.5, the waste is a hazardous waste due to corrosivity. Corrosivity may not be the only hazard of your waste so do not think you

can stop there. If your waste is a liquid but appears to have no pH, you may have an organic waste (e.g. oil, degreaser, lubricants, solvents, etc.). A word of caution: Do not attempt to dissolve a solid into solution in order to take its pH unless you are positive that the waste is not water reactive. A water reactive substance may cause an explosion when mixed with water.

WHAT YOU DO IF YOU NEED MORE ANSWERS: If all your research and basic testing still do not provide enough information for the waste contractor, laboratory analyses will have to be done. If you are in need of laboratory services but do not know how to get them, contact your installation environmental coordinator who is usually located within the Department of Public Works (DPW).

DO NOT LET YOUR WASTE BECOME A STRANGER! The easiest way to avoid the loss of valuable time and money is to not lose track of your wastes or let materials become wastes. Most unknowns could have been kept from their current status by following a few VERY SIMPLE steps. Here are some easy steps to follow to keep tabs on your waste:

1. Keep track of the expiration dates on your materials and use the containers that are about to expire first.
2. Keep in inventory only as much material as you can use before the expiration date elapses.
3. Use a "hazardous material pharmacy" system or procure only the material needed for a specific job or a certain period of time.
4. If you have a hazardous material, make sure you get an MSDS when you receive the material and keep the MSDSs together in a readily accessible place.
5. Properly label waste container (40 CFR 262.34 (c)(1)(ii)). This includes stenciling the container or using a label.
6. Train personnel on what goes in the container and to keep records. Keep records of additions to the container. Make it worth their while. In general, non-hazardous wastes contaminated with hazardous waste will become hazardous wastes and will cost you on average twice as much for disposal.
7. Make arrangements to remove containers before they have a chance to sit around and be forgotten.
8. Keep records of when containers are removed for disposal.
9. REMEMBER, an ounce of prevention is worth a pound of your precious O&M funds when expensive analyses are involved.

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